

News of the Automotive World—Personnel Changes—Factory Notes

How Tires Are Made Is a Very Interesting Story

Details of the Process, From the Crude Rubber to Finished Product, Told by Firestone Man

By E. P. Jones
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In a tour of a tire plant we first visit the large rooms in which the crude rubber is stored. Tons of Para rubber are kept on hand, in the same form as when it left the tropics.

The manufacturing process for fabric tires begins when the rolls of crude rubber are washed in filtered water. Then they are dried in great rooms adjoining. These drying rooms are supplied with filtered air that has been warmed to the proper temperature.

After it has been dried the rubber is taken into the mill rooms, where, in large machines, between heavy rollers of steel which are heated by the friction of the steel's surface and the rubber itself, it is mixed with toughening pigments. There is great exactness in following the compounding formulas, which chemists are constantly studying.

After each lot has been forced through the steel rollers until the mixing is perfect the rubber is rolled into thick sheets and sent away to be stored or aged for a period of time. From the aging bins the material for tubes and tires is taken to the calendar rooms, where machines carry out one of the most exacting processes through which rubber is put in the building of tires.

It goes into the large calendars only after it has been worked over in the mills once more to warm and prepare it for them. The calendars spread it and roll it into uniform sheets of desired thickness. The sheets of rubber that come from one set of calendars are run through rollers so as to produce certain stocks for definite purposes.

The building up of sheet on sheet, or lamination, is essential to freedom from flaws and to fineness of texture, qualities which give life and strength to the finished product.

Cotton fabric is of importance second only to rubber in making pneumatic tires. Sea Island cotton, when it comes into the factory, has an inspection under tables of magnifying glass. Each roll is tested for thread, weave and strength. It must conform to specifications.

As it is necessary that the fabric be absolutely free of all atmospheric impurities before coming in contact with the gum rubber, it is rolled over a series of heated steel plates after it has been inspected. This process removes the moisture without impairing the natural tensile strength of the cotton.

After the moisture has been taken from the roll of cotton it is carried on a crane to the calendar rooms, where it is rolled through the drums of the machine against a slow flow of the compounded rubber. The drums, heated to a certain degree, force the cotton into every weave and fibre of the cloth, from one side. Then the cotton is sent through again and the warm gum forced in from the other side. The operation is repeated the time the tire is then ready for vulcanization or curing. Encased in a steel mould, it is lowered into a steam pit, where it is subjected to an intense steam heat under pressure. The heat vulcanizes the fabric and rubber into one solid toughened bit of resilience.

The steam pits are huge affairs of steel, each of which can swallow thirty of the steel-encased tires. After more than an hour they have accomplished with the tire what the process of tempering does for steel. The rubber has lost none of its resilient qualities, but is toughened to an almost unbelievable degree.

After it has been lifted from the steam pits, the finished tire is dried in a room where it gets an inside coating with an anti-friction paint. This process provides a smooth surface, against which the inner tube finds little chance to buckle up or tear.

The tire is inspected not only after it has been completed. At every stage in the process of manufacture it comes under the eyes of some inspector. The slightest flaw is cause for its being turned aside for adjustment.

One unit of the Firestone factories is devoted to the making of solid rubber truck tires exclusively. Here special machines apply hard rubber to a steel rim as a base. This is roughened preparatory to the application of tread rubber. The heavy tread rubber is wrapped around each tire by machinery, under very heavy tension. The process of vulcanization then takes place.

Brewster Has Big Display
Exquisite Exhibit of Coach Work and Fittings on Coach Brewster Chassis

The section reserved by Brewster & Co. in the grand ballroom of the Commodore is bound to attract a great deal of attention during the Salon.

Included in this exhibit is a country brougham, painted in two harmonious shades of green, with the oil finish in which Brewster specializes. The interior is trimmed in brown cloth, the whole making a very effective combination. There is an enclosed driver's compartment in two shades of bluish gray, with all finish. The interior is trimmed in blue cloth to harmonize. This car is fitted with a division, with glass that can be raised or lowered at will, making the car either a double or single compartment. This makes it appropriate for either the owner or chauffeur to drive.

The town landulet is a very formal car designed for driving and shopping purposes. It is equipped with patent leather carriage, style fenders and steps, also a chauffeur's leather seat following very closely the accepted ideas of the old-fashioned horse-drawn town carriage. It is painted in black and striped in ivory white. The

Interior is trimmed in tan broadcloth, with fittings to match.
All of these bodies are mounted on the Brewster chassis, which measures up in motor construction to the standard set by this firm through many decades of coach building. In addition Brewster is showing a four-passenger touring body of unusually smart design mounted on a Rolls-Royce chassis. Unfortunately this car is in the rough, as the recent tie-up on the piers prevented the chassis being delivered in time to complete the car.

Can't Bring Horse Back, Says Larson
On Ground of Utility Only It Is a Survival of the Fittest in Transport

The incorporation of an association here to wage a national campaign to popularize the horse isn't worrying New York's automobile distributors according to C. H. Larson, of the Oldsmobile Company.

Despite Black Beauty and Paul Revere's steed, Mr. Larson declares, "the horse is not a sentimental issue and cannot be made one. The survival of the horse, precisely like the survival of any system of device of commerce, must depend entirely upon economic use and justification. Otherwise, we shall not progress."

Statistics presumably authoritative show that the number of horses in this city alone has decreased in the last three years from 108,000 to 76,000. Remember, too, that this drop of almost one-third recorded during a period in which the vast majority of our motor trucks were being delivered to our armies or to those of our allies. It is only now that the real era of the truck and delivery auto is beginning, and the growing evidence of their utility and the increasing attention to road building will soon force the horse completely out of metropolitan business.

Dario Resta Has Sunbeam
Famous Racing Driver Represents English Car

One of the interesting exhibits at the Commodore will be that of the Resta Motors, Inc., with their Sunbeam cars. This well-known English make has never before been exhibited in the United States. The success of the Sunbeam motor, both as a racing and automobile work won it an enviable reputation during the war. One of the recent testimonials to this motor is the fact that the British dirigible R-34 was equipped with two of them on its transatlantic trip.

Dario Resta, president of the Resta Motors Company, says that he expects to specialize in the six-cylinder chassis in America, although he shortly expects a shipment of the four-cylinder model. In this four-cylinder model Resta says that the world's records from 100 to 1,000 miles in 1912. Manufacturers have observed closely the English idea of low lines with ample road clearance. A very unusual feature of the Sunbeam, in which Mr. Resta broke the records which had been established up till 1912 was that the four-cylinder model used was a stock model, instead of a specially constructed racing type. The Sunbeam is planning on sending a car for next year's Indianapolis 500-mile race, and they are also entering a team of cars for the Grand Prix, which is to be held in France next year. Mr. Resta expects to drive in the Indianapolis race.

S. Smith & Sons Exhibit
Prominent British Accessory Makers at Salon

At the Commodore salon exhibit, S. Smith & Sons, of London, will attract more than passing interest. These manufacturers of high grade motor car accessories have opened a subsidiary company in New York, representing the parent company, which is known as the foremost English motor accessory house. Their specialties include such important items of convenience as clocks, speedometers and other dash control board fittings.

Before the war 90 per cent of the British car manufacturers of standardizing instruments used Smith equipment, and during the war their instruments were utilized to a greater extent on our Allies' airplanes than those of any other manufacturer. The post-war models show a complete change of design. Quality has been consistently adhered to. Finish, precision and durability have been watched, and a pleasing particular, in these days of high cost of motoring, is the reasonable price at which they may be procured.

Rubay Shows Coach Work
Interesting Exhibit at Salon by Famous Builders

The four cars to be shown by Rubay at the Salon, a name widely known in connection with fine coachwork, will prove a strong attraction, especially to the feminine motorists. The seven-passenger berline, on a Cole chassis of 127-inch wheelbase, is an unusually roomy body. The upholstery of the Rubay pillow type has three cushions across the rear seat. The driver's compartment is trimmed in black leather. Another model is a smart four-passenger touring car with a victoria top.

Of especially fine appearance is the four-passenger sedan on the new 126-inch Marmon chassis. This car has four individual seats trimmed in a very soft black leather; the interior is finished in natural wood and cane. This model has three doors, two on the right and one on the left, permitting an unobstructed view through a large window on the left. This car is known as the "Moskovic II Sedan."

Blake Ozias Brings Delage
Popular French Car Arrives for Salon

A particularly interesting chassis at the salon this week will be the Delage, well known to racers in all parts of the country.

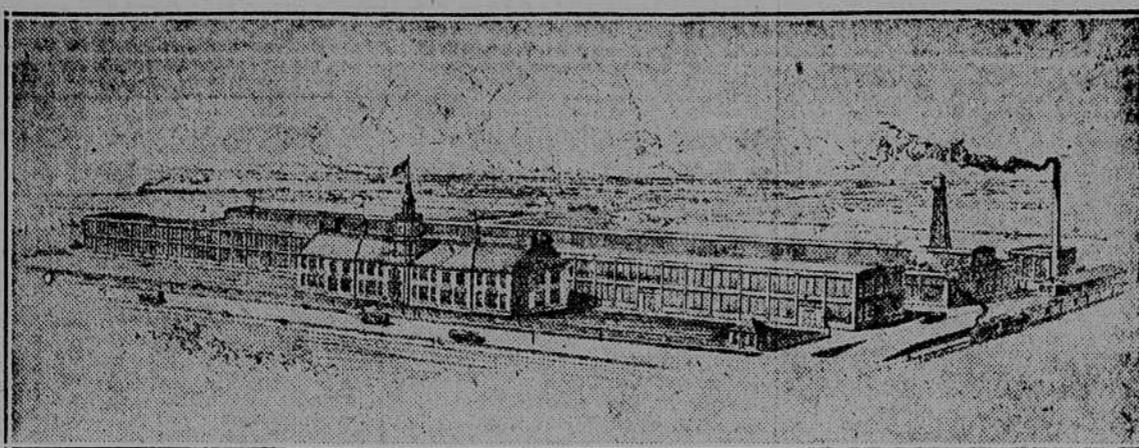
This chassis has a six-cylinder L head motor, four-speed gear set and a dry disk clutch. There are brakes on all four wheels, also a transmission brake.

In the manufacture of staff cars for the French army invaluable experience was gained by Delage, and the present chassis embodies the results of this severe testing.

Blake Ozias has been appointed American representative of the Delage, and the management of the New York office has been placed in the hands of Thomas S. Willets, who for many years was connected with Packard interests in this city.

Economical Performance of Studebaker Touring Cars
Edward Legenbauer, who runs a large taxi and auto renting business in Troy, N. Y., is an enthusiastic Studebaker booster. He believes that he is in a position to know what he is talking about, as taxi work soon shows up the defects in a car. Last spring he bought a new Studebaker. In the first 19,000 miles he has had absolutely no mechanical difficulties and no adjustments.

New Home for Liberty Motor Cars



E. S. Partridge, New York distributor for Liberty cars, has just returned from the new Liberty factory in Detroit and is very enthusiastic over the new developments in motor car manufacture. The old Liberty factory is being used in addition and buyers of the Liberty car in 1920 will be assured of prompt deliveries with these added facilities and will not have to wait months, as many did this year.

Motor Car Registration
Next Year Complicated

25 Cents Per Horsepower Basis Rate, Plus Amounts According to Age and List Price

The Automobile Club of America has sent a statement to its members inviting their attention to the changes in the New York state motor vehicle law, effective February 1, 1920, regarding the registering of automobiles, which is of interest to all motorists.

To figure your registration fee for 1920 you must have the following information about your car:
First—Number of cylinders and bore of cylinders (in order to get correct horsepower).

Second—Year car was manufactured (not necessarily the year you purchased car).

Third—Manufacturer's list price at time of manufacture, fully equipped (not necessarily the price you paid for it).

The method of computing the fee is based on three elements—the horsepower, age of car and list price.

The constant fee—25 cents per horsepower.

In addition to this fee, there must be paid an amount based upon the age and list price of car, as follows:

Rate 1—If registered during year of manufacture or within three years of manufacture, 10 cents on each \$100 or major fraction of list price of car.

Rate 2—If registered during fourth or fifth year following December 31 of year of manufacture, 20 cents on each \$100 or major fraction of list price of car.

Rate 3—If registered later than fifth year following December 31 of year of manufacture, 10 cents on each \$100 or major fraction of list price of car.

At no time shall the fee for a six-cylinder car be less than \$10 or for a four-cylinder car be less than \$5.

The Secretary of State will send to all owners registered during 1919 application blanks for renewal for 1920.

October Biggest Month
For Cadillac Production

"The month of October recorded the largest production, for a similar period, in the history of the Cadillac Motor Car Company," says Lynn McNaughton, general sales manager of the Cadillac.

"Nevertheless, the reports from our dealers and distributors make it plain that even this huge output fell far short of supplying cars to all those who wanted them."

"It is gratifying to us that this should be the state of affairs; but at the same time it is somewhat embarrassing. It seems to be a condition which we are powerless to remedy, no matter to what volume we build up our production."

Bonner Tubes Add New Factory

That non-deflating tubes are popular is evidenced by the large number of sales reported by the Story Rubber Corporation, which makes the Bonner tubes. So great has been the demand that a large plant is being erected at Hempstead, L. I., to supplement production at the Story corporation's Jersey City factory. This Hempstead plant is nearing completion and will soon be running in full swing.

Demonstration tubes are shown by the makers under ninety pounds pressure, with round holes an inch in diameter, cut through a casing, with nails driven through each hole. Not only does the tube fail to bulge through these holes, but the nails may be inserted and removed at will without any appreciable loss of air.

Repair Wagon
In Hotel Service

Wrecking Vehicle Now on the Job for Pershing Square Group Patrons

The S. O. S. service and repair truck recently bought by Eugene D. Miller, secretary and treasurer of the Pershing Square group of hotels, has been delivered and is now at the Commodore-Biltmore garage, in East Forty-fourth Street, ready to answer all first-aid calls from hotel guests whose automobiles may be stranded within a twenty-five-mile radius of New York.

The notable feature of the Willys-Knight trucks equipment is a windlass crane by which even the heaviest cars can be righted and pulled from ditch or mudhole. In case of front end wrecks the crane will hold up the front part of the damaged car, and in this way it can be taken to a repair shop without requiring a man at the steering wheel.

Although its principal use will be to bring in damaged cars, the truck is equipped for ordinary repair work and has a crew familiar with all the troubles an automobile may have. It was the increase of motor mishaps in the last few months that led Mr. Miller to install the wrecking truck as a part of hotel service.

China, Too, Has Its Troubles With Joy Riders

They Talk About Speeders Over There the Same Way as Some Folks Do Over Here

They have it in China, too. "The Oriental Motor," a monthly automobile publication of Shanghai, fulminates in a recent editorial on reckless driving and joy riding very much in the line that we are accustomed to over here. The average automobilist has the impression that Chinese roads are so narrow that they do not lend themselves much to driving at all, much less driving fast. Changing a name here and there, the editorial might well do for any part of this

country except for that part in which it states that it is a rarity for the owner of a Chinese-chauffeur car to have his machine proved to be in the wrong in an accident when the car was occupied by passengers. Unlike America, the Chinese blame their accidents on the joy rider.

Here is the editorial:
"Motoring in Shanghai has just had what may well be termed a bad month. Reports of pedestrians being run down, of reckless driving and disregard for traffic rules have followed upon each other in rapid and seemingly increasing repetition, so that the public press has been filled with such accounts and letters of protest and condemnation have been directed editorwards."

"Such a condition of affairs hits heavily at the motoring fraternity and puts motoring in general under a cloud. It is the more to be regretted in that the motoring public in general is not to blame, but that the stigma which is brought to rest upon it is the result of carelessness, criminal or to a less degree, of a very small proportion of the drivers of motors; and the fact calls for a determined campaign of the blameless majority to bring the mi-

nority to book. It is a significant fact that the owner-driver who tools his own car about town never, or very seldom, appears as the blameworthy party in an automobile mishap."

Putting Sales Between Owner and Service

The New York Branch of the Studebaker Corporation plans to increase its sales force by more than fifty per cent. Mr. Scholes, retail manager of the New York Branch, said yesterday that this increase would enable the sales end of the branch to give more intensive attention to the Studebaker owner. "Heretofore," he said, "after the buyer had received his car, it had been the practice in the automobile ice department. This almost always caused inconvenience to the owner and very frequently caused friction."

"With this increased sales force it will be possible for the sales department to act as a buffer between the mechanical end and the customer and to follow up the Studebaker owner, even when he does not come in for service work."

BONNER TUBES
Will Not Deflate

The BONNER TUBE is two and one-half times thicker at the tread than ordinary tubes. When inflated this thickened portion is under compression—it compresses itself. A puncture is instantly sealed on a scientific principle—the principle of a valve. Each tube is guaranteed against puncture deflation.

AIR FILLED ONLY
BONNER TUBES are filled with air and contain no filler or gum compound. They are as easy-riding and resilient as the highest grade of thin walled tubes.

ADD CASING MILEAGE
Partial or complete deflation causes a breaking down of the side wall of your casing. Rim cutting results. BONNER TUBES insure maximum mileage with full inflation.

PREVENTS PREMATURE BLOWOUTS
BONNER TUBES reinforce a casing worn at the tread. The extra heavy construction at the tread and the fabric embedded and vulcanized in the rubber give added miles to a worn casing.

We guarantee all BONNER TUBES NOT TO DEFLATE UNDER ANY TREAD PUNCTURE for a period of one year.

STORY RUBBER CORPORATION
66TH ST. AND BROADWAY NEW YORK CITY
SELF-SEALING.
"THE PRINCIPLE WORTH THE PRICE."

Thickened tread section which compresses when tube is inflated. Non stretchable fabric strip tread. Curve in tread showing natural lay of rubber when not compressed.

Lexington
MINUTE MAN SIX

Salon Sedan \$3250
E. O. B. FACTORY

THE Lexington Salon Sedan is distinguished by a quiet dignity and chaste elegance that is the property of no open vehicle. By the solidity of its construction, the refinement of its finish and the meticulous care displayed in its appointments, it is essentially fitted for use the year 'round, whenever the call is formal or the event attains the dignity of a social function.

In the evening, for a quiet drive over the boulevard or a theatre party, there is no car that lends itself so completely to the spirit of the occasion, or harmonizes so fittingly with its surroundings—conveying an atmosphere of striking elegance and distinguished comfort.

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PEERLESS

The New Peerless Four-Door, Four-Seater. Very Smart, Very Comfortable

For the Peerless Two-Power Range, Eight Cylinder chassis this new roadster body has been created. It has four doors, and seating space for four passengers.

There is a luggage compartment at the rear. Our allotment in cars of this type is limited but at present we can promise reasonably prompt delivery.

Do you know the thrill of driving the Two-Power Ranger? It is a thrill that can not be explained. To be understood it must have been experienced. May we not place a demonstrator car at your disposal.

Its roominess permits a comfortable touring position for occupants of driving compartment and tonneau. It may be quickly and snugly enclosed with the side curtains.

Touring, \$2900
Roadster, \$2900
Sedan, \$3700

Price Subject to Change Without Notice

Coupe, \$3500
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